| Learning to Fly: The Wright Brother's Adventure | | | |
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| 2008 Science | | | |
| State Frameworks | | | |
| **Mississippi Science** | | | |
| **Grade 6** | | | |
| **Activity/Lesson** | **State** | **Standards** | |
| The Society | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| The Society | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |
| Wright Brothers: 1900 Glider | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| Wright Brothers: 1900 Glider | MS | SCI.6.1.e | Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models. |
| Wright Brothers: 1900 Glider | MS | SCI.6.1.f | Evaluate the results or solutions to problems by considering how well a product or design met the challenge to solve a problem. |
| Wright Brothers: 1900 Glider | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |
| Wright Brothers: 1901 Glider | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| Wright Brothers: 1901 Glider | MS | SCI.6.1.e | Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models. |
| Wright Brothers: 1901 Glider | MS | SCI.6.1.f | Evaluate the results or solutions to problems by considering how well a product or design met the challenge to solve a problem. |
| Wright Brothers: 1901 Glider | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |

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| Wright Brothers: 1902 Glider | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| Wright Brothers: 1902 Glider | MS | SCI.6.1.e | Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models. |
| Wright Brothers: 1902 Glider | MS | SCI.6.1.f | Evaluate the results or solutions to problems by considering how well a product or design met the challenge to solve a problem. |
| Wright Brothers: 1902 Glider | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |
| Wright Brothers: 1903 Flyer | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| Wright Brothers: 1903 Flyer | MS | SCI.6.1.e | Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models. |
| Wright Brothers: 1903 Flyer | MS | SCI.6.1.f | Evaluate the results or solutions to problems by considering how well a product or design met the challenge to solve a problem. |
| Wright Brothers: 1903 Flyer | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |
| Meet the Wrights | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| Meet the Wrights | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |
| 1900: Kitty Hawks | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |

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| 1900: Kitty Hawks | MS | SCI.6.1.e | Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models. |
| 1900: Kitty Hawks | MS | SCI.6.1.f | Evaluate the results or solutions to problems by considering how well a product or design met the challenge to solve a problem. |
| 1900: Kitty Hawks | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |
| 1901: The First Improvement | MS | SCI.6.1.a | Design and conduct an investigation that includes predicting outcomes, using experimental controls, and making inferences. |
| 1901: The First Improvement | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| 1901: The First Improvement | MS | SCI.6.1.e | Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models. |
| 1901: The First Improvement | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |
| 1901: The First Improvement | MS | SCI.6.2.c.1 | Investigate and describe the effects of forces acting on objects: Gravity, friction, magnetism, drag, lift, and thrust |
| 1901: The First Improvement | MS | SCI.6.2.c.2 | Investigate and describe the effects of forces acting on objects: Forces affecting the motion of objects |
| 1901: The First Improvement | MS | SCI.6.2.d.2 | Mechanical energy transformed to another form of energy (e.g., vibrations, heat through friction) |
| 1901: The First Improvement | MS | SCI.6.2.f.2 | Develop a logical argument to explain how the forces which affect the motion of objects has real-world applications including (but not limited to) examples of Mississippi's contributions as follows: Aerospace industry (The Raspet Flight Research Laboratory, housed at Mississippi State University, is one of the premier university flight research facilities in the country.) |

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| New Data | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| New Data | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |
| 1902: Success at Last | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| 1902: Success at Last | MS | SCI.6.1.e | Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models. |
| 1902: Success at Last | MS | SCI.6.1.f | Evaluate the results or solutions to problems by considering how well a product or design met the challenge to solve a problem. |
| 1903: Powered Flight | MS | SCI.6.1.c.1 | Tools (e.g., English rulers [to the nearest one-sixteenth of an inch], metric rulers [to the nearest millimeter], thermometers, scales, hand lenses, microscopes, balances, clocks, calculators, anemometers, rain gauges, barometers, hygrometers, telescopes, compasses, spring scales) |
| 1903: Powered Flight | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| 1903: Powered Flight | MS | SCI.6.1.e | Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models. |
| 1903: Powered Flight | MS | SCI.6.1.f | Evaluate the results or solutions to problems by considering how well a product or design met the challenge to solve a problem. |
| 1903: Powered Flight | MS | SCI.6.2.b.1 | Between solids, liquids, and gases through models that relate matter to particles in motion |

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| 1904: Improvement in Dayton | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| 1904: Improvement in Dayton | MS | SCI.6.1.e | Communicate scientific procedures and conclusions using diagrams, charts, tables, graphs, maps, written explanations, and/or scientific models. |
| 1904: Improvement in Dayton | MS | SCI.6.2.c.1 | Investigate and describe the effects of forces acting on objects: Gravity, friction, magnetism, drag, lift, and thrust |
| 1904: Improvement in Dayton | MS | SCI.6.2.c.2 | Investigate and describe the effects of forces acting on objects: Forces affecting the motion of objects |
| 1904: Improvement in Dayton | MS | SCI.6.2.f.2 | Aerospace industry (The Raspet Flight Research Laboratory, housed at Mississippi State University, is one of the premier university flight research facilities in the country.) |
| 1905: Complete a Flight at Last | MS | SCI.6.1.c.2 | Use simple tools and resources to gather and compare information (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, time, area, perimeter) |
| 1905: Complete a Flight at Last | MS | SCI.6.1.f | Evaluate the results or solutions to problems by considering how well a product or design met the challenge to solve a problem. |
| 1905: Complete a Flight at Last | MS | SCI.6.1.g | Infer explanations for why scientists might draw different conclusions from a given set of data. |
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| **Learning to Fly: The Wright Brother's Adventure** | | | |
| **2008 Science** | | | |
| **State Frameworks** | | | |
| **Mississippi Science** | | | |
| **Grade 7** | | | |
| **Activity/Lesson** | **State** | **Standards** | |
| The Society | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |
| Wright Brothers: 1900 Glider | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |
| Wright Brothers: 1901 Glider | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |

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| Wright Brothers: 1902 Glider | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |
| Wright Brothers: 1903 Flyer | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |
| Meet the Wrights | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |
| 1900: Kitty Hawks | MS | SCI.7.1.c.2 | Collect and display data using simple tools and resources to compare information (using standard, metric, and non-standard measurement): Types of data (e.g., linear measures, mass, volume, temperature, area, perimeter) |
| 1900: Kitty Hawks | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |
| 1901: The First Improvement | MS | SCI.7.1.a | Design, conduct, and draw conclusions from an investigation that includes using experimental controls. |
| 1901: The First Improvement | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |
| 1901: The First Improvement | MS | SCI.7.2.c | Compare the force (effort) required to do the same amount of work with and without simple machines (e.g., levers, pulleys, wheel and axle, inclined planes). |
| 1901: The First Improvement | MS | SCI.7.2.f.1 | Describe the effects of unbalanced forces on the speed or direction of an object's motion: Variables that describe position, distance, displacement, speed, and change in speed of an object |
| 1901: The First Improvement | MS | SCI.7.2.f.2 | Describe the effects of unbalanced forces on the speed or direction of an object's motion: Gravity, friction, drag, lift, electric forces, and magnetic forces |
| New Data | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |
| 1903: Powered Flight | MS | SCI.7.1.c.1 | Collect and display data using simple tools and resources to compare information (using standard, metric, and non-standard measurement):Tools (e.g., English rulers [to the nearest one-sixteenth of an inch], metric rulers [to the nearest millimeter], thermometers, scales, hand lenses, microscopes, balances, clocks, calculators, anemometers, rain gauges, barometers, hygrometers, telescopes, compasses, spring scales, pH indicators, stopwatches) |

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| 1903: Powered Flight | MS | SCI.7.1.d | Organize data in tables and graphs and analyze data to construct explanations and draw conclusions. |
| 1903: Powered Flight | MS | SCI.7.1.e | Communicate results of scientific procedures and explanations through a variety of written and graphic methods. |
| 1903: Powered Flight | MS | SCI.7.2.f.1 | Describe the effects of unbalanced forces on the speed or direction of an object's motion: Variables that describe position, distance, displacement, speed, and change in speed of an object |
| 1904: Improvement in Dayton | MS | SCI.7.1.e | Communicate results of scientific procedures and explanations through a variety of written and graphic methods. |
| 1904: Improvement in Dayton | MS | SCI.7.2.c | Compare the force (effort) required to do the same amount of work with and without simple machines (e.g., levers, pulleys, wheel and axle, inclined planes). |
| 1904: Improvement in Dayton | MS | SCI.7.2.f.2 | Describe the effects of unbalanced forces on the speed or direction of an object's motion: Gravity, friction, drag, lift, electric forces, and magnetic forces |
| 1905: Complete a Flight at Last | MS | SCI.7.1.g | Develop a logical argument to explain why scientists often review and ask questions about the results of other scientists' work. |
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| **Learning to Fly: The Wright Brother's Adventure** | | | |
| **2008 Science** | | | |
| **State Frameworks** | | | |
| **Mississippi Science** | | | |
| **Grade 8** | | | |
| **Activity/Lesson** | **State** | **Standards** | |
| The Society | MS | SCI.8.4.g.1 | Justify the importance of continued research and use of new technology in the development and commercialization of potentially useful natural products, including, but not limited to research efforts in Mississippi: The Thad Cochran National Center for Natural Products Research, housed at the University of Mississippi |
| The Society | MS | SCI.8.4.g.2 | Justify the importance of continued research and use of new technology in the development and commercialization of potentially useful natural products, including, but not limited to research efforts in Mississippi: The Jamie Whitten Delta States Research Center in Stoneville, MS |

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| The Society | MS | SCI.8.4.g.3 | Justify the importance of continued research and use of new technology in the development and commercialization of potentially useful natural products, including, but not limited to research efforts in Mississippi: The Mississippi Polymer Institute, housed at the University of Southern Mississippi |
| Wright Brothers: 1900 Glider | MS | SCI.8.1.f | Develop a logical argument to explain why perfectly designed solutions do not exist. |
| Wright Brothers: 1901 Glider | MS | SCI.8.1.f | Develop a logical argument to explain why perfectly designed solutions do not exist. |
| Wright Brothers: 1902 Glider | MS | SCI.8.1.f | Develop a logical argument to explain why perfectly designed solutions do not exist. |
| Wright Brothers: 1903 Flyer | MS | SCI.8.1.f | Develop a logical argument to explain why perfectly designed solutions do not exist. |
| 1900: Kitty Hawks | MS | SCI.8.1.c.2 | Summarize data to show the cause and effect relationship between qualitative and quantitative observations (using standard, metric, and non-standard units of measurement): Types of data (e.g., linear measures, mass, volume, temperature, area, perimeter) |
| 1900: Kitty Hawks | MS | SCI.8.1.f | Develop a logical argument to explain why perfectly designed solutions do not exist. |
| 1901: The First Improvement | MS | SCI.8.1.a | Design, conduct, and analyze conclusions from an investigation that includes using experimental controls. |
| 1901: The First Improvement | MS | SCI.8.4.g.1 | Justify the importance of continued research and use of new technology in the development and commercialization of potentially useful natural products, including, but not limited to research efforts in Mississippi: The Thad Cochran National Center for Natural Products Research, housed at the University of Mississippi |
| 1901: The First Improvement | MS | SCI.8.4.g.2 | Justify the importance of continued research and use of new technology in the development and commercialization of potentially useful natural products, including, but not limited to research efforts in Mississippi: The Jamie Whitten Delta States Research Center in Stoneville, MS |
| 1901: The First Improvement | MS | SCI.8.4.g.3 | Justify the importance of continued research and use of new technology in the development and commercialization of potentially useful natural products, including, but not limited to research efforts in Mississippi: The Mississippi Polymer Institute, housed at the University of Southern Mississippi |

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| New Data | MS | SCI.8.1.a | Design, conduct, and analyze conclusions from an investigation that includes using experimental controls. |
| 1902: Success at Last | MS | SCI.8.1.f | Develop a logical argument to explain why perfectly designed solutions do not exist. |
| 1903: Powered Flight | MS | SCI.8.1.a | Design, conduct, and analyze conclusions from an investigation that includes using experimental controls. |
| 1903: Powered Flight | MS | SCI.8.1.c.1 | Summarize data to show the cause and effect relationship between qualitative and quantitative observations (using standard, metric, and non-standard units of measurement): Tools (e.g., English rulers [to the nearest one-sixteenth of an inch], metric rulers [to the nearest millimeter], thermometers, scales, hand lenses, microscopes, balances, clocks, calculators, anemometers, rain gauges, barometers, hygrometers, telescopes, compasses, spring scales, pH indicators, stopwatches, graduated cylinders, medicine droppers) |
| 1903: Powered Flight | MS | SCI.8.1.f | Develop a logical argument to explain why perfectly designed solutions do not exist. |
| 1903: Powered Flight | MS | SCI.8.2.c | Distinguish the motion of an object by its position, direction of motion, speed, and acceleration and represent resulting data in graphic form in order to make a prediction. |
| 1905: Complete a Flight at Last | MS | SCI.8.1.f | Develop a logical argument to explain why perfectly designed solutions do not exist. |
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| **Learning to Fly: The Wright Brother's Adventure** | | | |
| **2008 Science** | | | |
| **State Frameworks** | | | |
| **Mississippi Science** | | | |
| **Grades 9-12 (Physical Science)** | | | |
| **Activity/Lesson** | **State** | **Standards** | |
| The Society | MS | SCI.9-12.1.b | Identify questions that can be answered through scientific investigations. |
| The Society | MS | SCI.9-12.1.e | Analyze procedures and data to draw conclusions about the validity of research. |
| Wright Brothers: 1900 Glider | MS | SCI.9-12.1.a.1 | Use appropriate laboratory safety symbols and procedures to design and conduct a scientific investigation: Safety symbols and safety rules in all laboratory activities |
| Wright Brothers: 1900 Glider | MS | SCI.9-12.2.c | Describe (with supporting details and diagrams) how the kinetic energy of an object can be converted into potential energy (the energy of position) and how energy is transferred or transformed (conservation of energy). |

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| Wright Brothers: 1901 Glider | MS | SCI.9-12.2.c | Describe (with supporting details and diagrams) how the kinetic energy of an object can be converted into potential energy (the energy of position) and how energy is transferred or transformed (conservation of energy). |
| Wright Brothers: 1902 Glider | MS | SCI.9-12.1.a.1 | Use appropriate laboratory safety symbols and procedures to design and conduct a scientific investigation: Safety symbols and safety rules in all laboratory activities |
| Wright Brothers: 1902 Glider | MS | SCI.9-12.2.c | Describe (with supporting details and diagrams) how the kinetic energy of an object can be converted into potential energy (the energy of position) and how energy is transferred or transformed (conservation of energy). |
| Wright Brothers: 1903 Flyer | MS | SCI.9-12.1.a.1 | Use appropriate laboratory safety symbols and procedures to design and conduct a scientific investigation: Safety symbols and safety rules in all laboratory activities |
| Wright Brothers: 1903 Flyer | MS | SCI.9-12.2.c | Describe (with supporting details and diagrams) how the kinetic energy of an object can be converted into potential energy (the energy of position) and how energy is transferred or transformed (conservation of energy). |
| 1900: Kitty Hawks | MS | SCI.9-12.2.c | Describe (with supporting details and diagrams) how the kinetic energy of an object can be converted into potential energy (the energy of position) and how energy is transferred or transformed (conservation of energy). |
| 1901: The First Improvement | MS | SCI.9-12.1.e | Analyze procedures and data to draw conclusions about the validity of research. |
| 1901: The First Improvement | MS | SCI.9-12.1.f | Formulate and revise scientific explanations and models using logic and evidence (data analysis). |
| 1901: The First Improvement | MS | SCI.9-12.2.a.2 | Demonstrate and explain the basic principles of Newton's three laws of motion including calculations of acceleration, force, and momentum: Net force (accounting for gravity, friction, and air resistance) and the resulting motion of objects |
| 1901: The First Improvement | MS | SCI.9-12.2.b.1 | Explain the connection between force, work, and energy: Force exerted over a distance (results in work done) |
| 1901: The First Improvement | MS | SCI.9-12.2.b.2 | Explain the connection between force, work, and energy: Force-distance graph (to determine work) |

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| New Data | MS | SCI.9-12.1.g | Communicate effectively to present and explain scientific results, using appropriate terminology and graphics. |
| 1902: Success at Last | MS | SCI.9-12.1.f | Formulate and revise scientific explanations and models using logic and evidence (data analysis). |
| 1903: Powered Flight | MS | SCI.9-12.1.d | Interpret and generate graphs (e.g., plotting points, labeling x-and y-axis, creating appropriate titles and legends for circle, bar, and line graphs.) |
| 1903: Powered Flight | MS | SCI.9-12.1.f | Formulate and revise scientific explanations and models using logic and evidence (data analysis). |
| 1903: Powered Flight | MS | SCI.9-12.1.g | Communicate effectively to present and explain scientific results, using appropriate terminology and graphics. |
| 1903: Powered Flight | MS | SCI.9-12.2.a.1 | Demonstrate and explain the basic principles of Newton's three laws of motion including calculations of acceleration, force, and momentum: Inertia and distance-time graphs to determine average speed |
| 1903: Powered Flight | MS | SCI.9-12.2.b.2 | Explain the connection between force, work, and energy: Force-distance graph (to determine work) |
| 1903: Powered Flight | MS | SCI.9-12.3.d | Explain how sound intensity is measured and its relationship to the decibel scale. |
| 1904: Improvement in Dayton | MS | SCI.9-12.1.g | Communicate effectively to present and explain scientific results, using appropriate terminology and graphics. |
| 1904: Improvement in Dayton | MS | SCI.9-12.2.b.1 | Explain the connection between force, work, and energy: Force exerted over a distance (results in work done) |
| 1904: Improvement in Dayton | MS | SCI.9-12.2.b.2 | Explain the connection between force, work, and energy: Force-distance graph (to determine work) |
| 1904: Improvement in Dayton | MS | SCI.9-12.2.c | Describe (with supporting details and diagrams) how the kinetic energy of an object can be converted into potential energy (the energy of position) and how energy is transferred or transformed (conservation of energy). |
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| **Learning to Fly: The Wright Brother's Adventure** | | | |
| **2008 Science** | | | |
| **State Frameworks** | | | |
| **Mississippi Science** | | | |
| **Grades 9-12 (Physics)** | | | |
| **Activity/Lesson** | **State** | **Standards** | |
| The Society | MS | SCI.9-12.1.b | Clarify research questions and design laboratory investigations. |

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| The Society | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| Wright Brothers: 1900 Glider | MS | SCI.9-12.1.c | Demonstrate the use of scientific inquiry and methods to formulate, conduct, and evaluate laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). |
| Wright Brothers: 1900 Glider | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| Wright Brothers: 1901 Glider | MS | SCI.9-12.1.c | Demonstrate the use of scientific inquiry and methods to formulate, conduct, and evaluate laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). |
| Wright Brothers: 1901 Glider | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| Wright Brothers: 1902 Glider | MS | SCI.9-12.1.c | Demonstrate the use of scientific inquiry and methods to formulate, conduct, and evaluate laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). |
| Wright Brothers: 1902 Glider | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| Wright Brothers: 1903 Flyer | MS | SCI.9-12.1.c | Demonstrate the use of scientific inquiry and methods to formulate, conduct, and evaluate laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). |

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| Wright Brothers: 1903 Flyer | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| Meet the Wrights | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| 1900: Kitty Hawks | MS | SCI.9-12.1.c | Demonstrate the use of scientific inquiry and methods to formulate, conduct, and evaluate laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). |
| 1900: Kitty Hawks | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| 1901: The First Improvement | MS | SCI.9-12.1.f | Formulate and revise scientific explanations and models using logic and evidence (data analysis). |
| 1901: The First Improvement | MS | SCI.9-12.2.a.3 | Use inquiry to investigate and develop an understanding of the kinematics and dynamics of physical bodies: Vector techniques and free-body diagrams to determine the net force on a body when several forces are acting on it |
| 1901: The First Improvement | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| New Data | MS | SCI.9-12.1.c | Demonstrate the use of scientific inquiry and methods to formulate, conduct, and evaluate laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). |
| New Data | MS | SCI.9-12.1.e | Evaluate procedures, data, and conclusions to critique the scientific validity of research. |

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| New Data | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| 1902: Success at Last | MS | SCI.9-12.1.c | Demonstrate the use of scientific inquiry and methods to formulate, conduct, and evaluate laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). |
| 1902: Success at Last | MS | SCI.9-12.1.f | Formulate and revise scientific explanations and models using logic and evidence (data analysis). |
| 1902: Success at Last | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| 1903: Powered Flight | MS | SCI.9-12.1.c | Demonstrate the use of scientific inquiry and methods to formulate, conduct, and evaluate laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). |
| 1903: Powered Flight | MS | SCI.9-12.1.d | Organize data to construct graphs (e.g., plotting points, labeling x-and y-axis, creating appropriate titles and legends for circle, bar, and line graphs) draw conclusions and make inferences. |
| 1903: Powered Flight | MS | SCI.9-12.1.f | Formulate and revise scientific explanations and models using logic and evidence (data analysis). |
| 1903: Powered Flight | MS | SCI.9-12.2.a.2 | Use inquiry to investigate and develop an understanding of the kinematics and dynamics of physical bodies: Vector problems (solved mathematically and graphically) |
| 1903: Powered Flight | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |
| 1904: Improvement in Dayton | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |

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| 1905: Complete a Flight at Last | MS | SCI.9-12.1.c | Demonstrate the use of scientific inquiry and methods to formulate, conduct, and evaluate laboratory investigations (e.g., hypotheses, experimental design, observations, data analyses, interpretations, theory development). |
| 1905: Complete a Flight at Last | MS | SCI.9-12.2.b | Analyze, describe, and solve problems by creating and utilizing graphs of one-dimensional motion (e.g., position, distance, displacement, time, speed, velocity, acceleration, the special case of freefall). |